BLM

U.S. Department of the Interior
Bureau of Land Management

Environmental Assessment

Fremont County Transportation Department Lysite North of Railroad and Lost Cabin Free Use Permits

BLM EA No. WY-050–EA14–41

PREPARING OFFICE

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Environmental Assessment

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Prepared by
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Chapter 1. Purpose and Need for Action:

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1.1. Introduction:

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental consequences of the Lysite North of Railroad and Lost Cabin Free Use Permits as Proposed for renewal by the Fremont County Transportation Department (FCTD). The EA is a site specific analysis of potential impacts that could result with the implementation of a proposed action or alternatives to the proposed action. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any "significant" impacts could result from the analyzed actions. "Significance" is defined by NEPA and is found in regulation 40 CFR 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of "Finding of No Significant Impacts" (FONSI). If the decision maker determines that this project has "significant" impacts following the analysis in the EA, then an EIS would be prepared for the project. If not, a Decision Record (DR) may be signed for the EA approving the selected alternative, whether the proposed action or another alternative. A DR, including a FONSI statement, documents the reasons why implementation of the selected alternative would not result in "significant" environmental impacts.

1.2. Background:

The Fremont County Transportation Department has held Free Use Permits for the Lost Cabin and Lysite N. of RR gravel pits since the late 1980's for production of sand and gravel used in construction and maintenance of county roads. The Permit for the Lysite N. of RR pit (WYW106237) expired on June 6, 2000, and another Permit (WYW147157) was applied for in 1999 but never approved by BLM. The Lost Cabin Pit Permit (WYW152039) expired on July 20, 2013. The County has continued to produce material out of these pits even though the permits are expired or not approved. In order for the County's use to be in compliance with the 43 CFR 3600 regulations, the pending permit for the Lysite N. of RR pit will need to be approved with an additional total production of 46,000 cubic yards (cy) of gravel and clay, and a new permit will be obtained for the expired Lost Cabin Pit for a total of 30,000cy of sand and gravel. Because mining, crushing, stockpiling, and reclamation have occurred at both of these pits since the late 1980's, the proposal will not expand the existing footprint of these pits. These projects are located in S½SESW Sec. 1, N ½ NENW Sec. 12, T. 38 N., R. 91 W., and SESWSE Sec. 14, NENWNE Sec. 23, T. 39 N., R. 90 W., 6th P.M., Fremont County, WY. The proposed project is located entirely on Federal lands.

1.3. Purpose of the Proposed Action:

The purpose of the proposed action is to allow continued free use of mineral materials by the County on BLM lands in order for the County to maintain and construct County managed roads. Another purpose of the proposed action is to bring the subject gravel pits into compliance with the applicable BLM regulations and account for production of mineral materials from public lands.

1.4. Need for the Proposed Action:

BLM's need for this action is reflected in the agency's responsibility to address an application for a Free Use Permit for salable minerals (mineral materials) by a government entitity under the 43 CFR 3600 Requirements. There is a continued need for production of sand and gravel in

maintainence and construction of county roads. The approval is required in order to allow for continued production of salable minerals for use on County roads and to bring the subject gravel pits into compliance with BLM regulations.

1.5. Conformance to BLM Land Use Plan(s):

- The proposed action is in conformance with the Lander Resource Management Plan (RMP), approved June 9, 1987.
- The proposed permits are outside of any Areas of Critical Environmental Concern or withdrawn areas or areas closed to salable minerals as determined in the 1987 RMP.
- The proposed action will not result in an amendment to the RMP, and will be in conformance with the LFO Proposed RMP and Final EIS (2013) not yet in effect because it is outside of any area closed to salable minerals.

1.6. Relationship to Other Statutes, Regulations or Plans:

The proposed project is subject to the provisions under the Title 43 Code of Federal Regulations (CFR) Part 3600, Mineral Materials Disposal. Under the requirements of these regulations, a government entitiy such as the County is allowed to submit a Free Use Permit Application for production of sand and gravel free of charge in areas not closed to salable mineral production on public lands.

The proposed operations are also subject to the rules and regulations of the State of Wyoming Land Quality Division (WYDEQ-LQD) and the Wyoming Environmental Quality Act. The BLM and the WYDEQ-LQD operate under the guidelines of a Memorandum of Understanding approved and signed by both agencies in 1990 and amended in 2003. The WDEQ-LQD holds a flat-rate bond for the reclamation of all County gravel pits. Joint inspections by BLM and the WYDEQ-LQD are provided for in the Memorandum of Understanding and are employed whenever logistically possible.

1.7. Identification of Issues and Resources:

BLM is directed by guidance, statute and regulation to describe the environment of area(s) to be affected or created by alternatives under consideration. CEQ regulations direct BLM to concentrate efforts on important issues, especially the presence or absence of the potentially significant resources presented in Table 1. All areas presented in Table 1 were considered, but many were determined to not be pertinent to the Proposed Action or affected to a degree of any importance, and therefore, were not carried forward for further analysis. If particular resources are not affected beyond minimal amount, or if the resource is not present, there will be no further discussion of the resources in the Affected Environment (Chapter 3), or in any of the subsequent impact analysis. The discussion of these environmental impacts is therefore restricted to topics related to resources which are affected and carried forward for analysis.

Table 1.1. Potentially Significant Resources

RESOURCE	GUIDANCE OR AUTHORITY
Floodplains	EO 11998; 10 CFR 1022

Wetlands	EO 11990; 10 CFR 1022, CEQ 1508.27(b)(3)
Threatened, endangered, or candidate species and/or their critical habitat, and other special status (e.g., state-listed) species	CEQ 1508.27(b)(9)
Prime or unique farmland	7 USC 4201; CEQ 1508.27(b)(3)
State or national parks, forests, conservation areas, or other areas of recreational, ecological, scenic, or aesthetic importance	CEQ 1508.27(b)(3)
Wild and Scenic Rivers	16 USC 1271; CEQ 1508.27(b)(3)
Natural resources (e.g., vegetation, rangeland, soils, minerals, fish, wildlife, water bodies)	CEQ 1508.8
Coastal Zone areas	16 USC 1451 et seq.
Property of historic, archeological, or architectural significance (including sites on or eligible for the National Register of Historic Places and the National Registry of Natural Landmarks)	EO 11593; CEQ 1508.27(b)(3)(8)
Native American Concerns	EO 13007
Minority and low-income populations (including a description of their use and consumption of environmental resources)	EO 12898
Migratory Birds	EO 13186

1.7.1. Identified Relevant Issues and Resources:

1.7.1.1. Climate, Climate Change and Air Quality:

Potential effects to climate and climate change have been identified in an Instruction Memorandum No. 2008-171 to include analysis of climate change in EA's. Potential short-term impacts to air quality during the mining and crushing operations and long-term impacts for the duration of the project's life were identified.

1.7.1.2. Wildlife including Migratory Birds, and BLM Special Status Species:

Potential effects on wildlife have been identified by BLM wildlife biologists including: Ferruginous hawk, Sage Thrasher, Loggerhead Shrike, Sage Sparrow, Brewer's sparrow, and Migratory Birds in basin-prairie shrub lands.

1.7.1.3. Soil Resources:

Potential loss of soil stability and fertility and increase in soil compaction could exist from soil disturbance activities during pit and pond excavation truck and equipment activities in the Project Area. Exposed soil as a result of removing or disturbing the vegetation is more susceptible to water and wind erosion which causes a loss of soil fertility.

1.7.1.4. Vegetation Including BLM Wyoming Special Status and Noxious/Invasive Plants:

Potential degradation of vegetation resources is possible during operations. The establishment or increase in noxious/invasive plants in the project area could be caused by removal or disturbance of vegetative cover or indirect from vehicles traveling to and from project sites acting as seed

sources or carriers. Porter's sagebrush is a BLM special status plant species that could have habitat adjacent to the two pits but was not positively identified.

1.7.1.5. Water (Groundwater and Surface water):

Infiltration of local groundwater could occur through the unconsolidated sediments in the existing pit, and this will be explored more in Chapter 3. Wiithin the disturbed areas but outside of the closed pit basin, surface water run off could reach nearby drainages during large storm events from portions of the pits resulting in indirect effects to surface water.

1.7.2. Resources Considered But Eliminated From Further Analysis:

These issues were considered for analysis during the scoping process; however, the issues were eliminated from additional analysis including consideration under the affected environment or environmental consequences for the reasons described below under each resource.

1.7.2.1. Floodplains:

No floodplains were observed or identified in the project area.

1.7.2.2. Prime or Unique Farmland:

No prime or unique farmlands were observed or identified in the project area.

1.7.2.3. Wild and Scenic Rivers:

No Wild and Scenic Rivers were observed or identified in the project area.

1.7.2.4. Coastal Zone Areas:

No Coastal Zone Areas were observed or identified in the project area.

1.7.2.5. Minority and Low-Income Populations:

No determination was made regarding the minority and low-income populations of this action. The project is located in an unpopulated area.

1.7.2.6. State, or Natural Parks, Forests, Conservation Areas, or Other Areas of Recreational, Ecological, Scenic or Aesthetic Importance:

No areas relating to these criteria were observed or identified in the project area.

1.7.2.7. Ecological, Scenic, or Aesthetic Importance

No areas relating to these criteria were observed or identified in the project Area.

1.7.2.8. Vegetative and Wildlife Resrouces — Threatened and Endangered Species

BLM Wildlife Biologist determined that no Threatened, Endangered, or listed species or habitats are present in the project area.

1.7.2.9. Rangeland Resources:

The effects to rangeland resources was considered minor, and no impacts would occur to rangeland facilities or to grazing activities by this action.

1.7.2.10. Socioeconomics:

No determination was made regarding the socioeconomics of this action.

1.7.2.11. Visual Resources:

The project area occurs in Visual Resource Management Class IV designation. The objective of Class IV designation is to provide for management activities, which require the major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. The change to the visual landscape is anticipated to be minor as a result of these activities, regardless of the class.

1.7.2.12. Wild Horses:

The project areas are outside of any wild horse herd management areas, and no impacts to wild horses are anticipated.

1.7.2.13. Geological Resources:

There are no anticipated geologic hazards or unique geologic features that could potentially be impacted by the Proposed Action or any of the alternatives.

1.7.2.14. Wetlands:

No wetlands were observed or identified in the project area.

1.7.2.15. Cultural and Paleontological Resources:

These areas are within a previously disturbed gravel pit excavation. Because this site has been previously disturbed, does not penetrate bedrock, and is within quaternary terrace gravel deposits where fossilization is not likely, the potential impacts to paleontological resources is low, and there are no temporary, short-term, long-term or cumulative effects anticipated. Both project areas were previously inventoried in 1993 by BLM. One Cultural feature was found and field verified April 2014 to have been properly fenced and adequately protected at the Lost Cabin Pit. Therefore, no additional surveys or consultation is necessary.

However, the following stipulations are recommended:

Cultural Mitigation 1:

Due to the potential for affecting potentially significant cultural resources, the holder shall ensure that all project impacts remain within existing disturbed areas. This stipulation applies within the following legal locations:

T. 39 N., R. 90 W., Section 23 S1/2NE1/4NW1/4NE1/4 (fenced area around site 48FR4724)

Violation of this stipulation may result in the holder being subject to the penalties and actions contained in the 43 CFR 7 Regulations, which are on file at all BLM offices.

Cultural Mitigation 2:

Any cultural and/or paleontological resources (historic or prehistoric site or object fossil) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or specific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures shall be made by the authorized officer after consulting with the holder.

Because this site has been previously disturbed, does not penetrate bedrock, and is within quaternary terrace gravel deposits where fossilization is not likely, the potential impacts to paleontological resources is low, and there are no temporary, short-term, long-term, or cumulative effects anticipated.

1.8. Decisions to be Made:

The Decision to be made is limited to whether or not the existing, previously disturbed Free use Permits for the Lost Cabin and Lysite N. of Railroad pits can be approved in compliance with the 43 CFR 3600 regulations.

1.9. Scoping and Public Involvement:

No public scoping is necessary. Production of gravel by the County for improvements of County roads is generally considered a positive benefit by the public. The project was internally scoped in the Lander Field Office with meetings held between BLM staff.

Chapter 2. Description of Alternatives, Including Proposed Action:

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2.1. Introduction:

Chapter 2 describes in detail the Proposed Action and alternatives and compares the alternatives in terms of the environmental impacts as identified in Section 1.8, Identification of Issues.

The alternatives described in chapter two consist of:

1. Alternative A- No Action Alternative
2. Alternative B- Proposed Action Alternative

2.2. Description of Alternatives, Including the Proposed Action and No Action:

2.2.1. Alternative A- No Action:

Under the no action alternative, the Free Use Permits would not be allowed on BLM administered surface which comprises 100% of the project area. Therefore, the BLM would be denying the proponent's applications.

Under the No Action alternative, existing land and resource use activities within the project area would continue generally as is, meaning the County would likely continue to produce sand and gravel at these locations without proper permits in place. The Affected Environment descriptions presented in this EA, thus, also constitute the effects of the No Action alternative. The No Action alternative is analyzed in detail in this EA.

2.2.2. Alternative B- Proposed Action:

The Proposed Action consists of the County's previous applications and the BLM's assumptions regarding their operations as described within the respective case files and agreed to by the County. Basically, the County would continue to remove stockpiled material from these pits and then mine additional material as it was needed within the areas described in Figures 1 and 2. The permits would be issued for 10 years and the county would need to submit a new permit or reclaim the pit after this time.

2.2.2.1. Lysite North of Railroad Pit (WYW147157):

The Fremont County Transportation Department Free Use Permit for sand and Gravel at the Lysite N. of Railroad pit expired in 2001. The County submitted a replacement permit application for this pit but it was never processed, yet the County continued to utilize this pit. The County needs gravel and clay to maintain County roads and the permit is currently expired and needs to be authorized to be in compliance with 43 CFR 3600. Therefore, this permit will be processed for 36,000cy sand and gravel to account for past overproduction and stockpiled material. Within the Lysite N. of Railroad permit area is a small pit where clayey shale was mined and stockpiled. Therefore, this permit will also include 10,000 cy of clay to account for future clay production and the existing stockpile**. The total material permitted will equal 46,000cy for approximately 10 years.** Additional mining for clay material will occur within the existing disturbance boundary. No additional gravel mining or crushing will occur under this permit. This

permit will be authorized for 10 years. If reclamation were to occur at this pit within the next 10 years, the County would need to submit a detailed reclamation plan.

2.2.2.2. Lost Cabin Pit (WYW168560)

The Fremont County Transportation Department Free Use Permit for sand and Gravel at the Lost Cabin pit expired in July 2013. The County needs gravel and clay to maintain County roads and the permit is currently expired and needs to be authorized to be in compliance with 43 CFR 3600.The County has several existing stockpiles at this location and plans to mine additional material to the south of the existing pit within the permit boundary in an area already stripped of topsoil for a **total of 30,000 cubic yards over the next 10 years**. Crushing would occur in the existing pit bottom as necessary and stockpiles of gravel and overburden would also be contained within the existing pit. Overburden stripping and materials handling would occur using available excavators. If reclamation were to occur at this pit within the next 10 years, the County would need to submit a detailed reclamation plan.

2.2.2.3. Access Roads

The sites are located just off of the Badwater and NoWood County roads with good roads constructed leading to the pits themselves Road conditions are good and improvements are not anticipated.

2.2.2.4. Water Management

Water for dust control and crushing can be obtained from the County's water wells within the Lysite area. This use is anticipated to be low. Because the pits are internally drained, the county does not need to obtain a storm water management or spill contingency plan; however, the County employs best management practices in consultation with the BLM in handling spills and surface water run-off controls.

2.2.2.5. Reclamation Plan

Topsoil is already stripped and salvaged from these sites in preparation of reclamation. If the County wishes to reclaim these pits within the 10 year permitted timeframe, they will need to submit a detailed reclamation plan to BLM prior to beginning activities. The BLM would require that this reclamation plan meet the BLM Wyoming Reclamation Policy.

2.4. Alternatives Considered, But Eliminated From Further Analysis:

Because these gravel pits already exist and additional disturbance is not needed to complete additional gravel and clay production, the location for these gravel pits and the mining methods authorized under previous permits is adequate to meet BLM standards for a Free Use Permit. Additionally, the pit locations are outside of areas sensitive to wildlife or other resources. Therefore, the alternatives were limited to the Proposed Action and No Action Alternatives.

2.5. Comparison of Alternatives:

Table 2.1. Table of Comparison of Alternatives

Alternative	Major Features	Impacts
Alternative A- No Action Alternative	• Deny Free Use Permits • Continue un-authorized production of federal minerals	• Result in the existing environment
Alternative B- Proposed Action Alternative	• No additional disturbance • Total 76,000 cy produced over 10 years	• Existing ~11 acres of disturbance • Mining and crushing impacts to air resources • Erosion and sedimentation • Water consumption

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Chapter 3. Affected Environment and Environmental Impacts:

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3.1. Introduction:

This section describes the current conditions, organized by resources, as identified in Section 1.7, Identification of Issues that could be affected by the Proposed Action and the No Action Alternative.

3.1.1. General Setting:

The gravel pits are located in the Lysite and Lost Cabin areas in northeastern Fremont County, WY. These gravel pits have been used since the late 1980's for construction and maintenance of County roads in the Lysite and Lost Cabin area. The primary land use of this area is oil and gas production from nearly 1,000 wells in various units and leases held by various operators. Near the Lost Cabin pit is the Lost Cabin Gas Plant owned by ConocoPhillips and Burlington Resources which can process up to 313 million cubic feet of natural gas per day. Other uses of the area include utility corridors, livestock grazing, wildlife habitat, and recreation (hunting).

3.1.2. Resources/Issues Brought Forward for Analysis:

The level of resources presented are ordered and addressed in the same order presented in Chapter 1. Resources that are not impacted are not of concern in the project area and are not discussed below (see Chapter 1).

3.1.3. General Impact Analysis Assumptions and Guidelines:

This section is based on the resource specialists' reports and provides the analytical basis for comparison of the alternatives. The section organizes the resources as identified in Chapter 1.0; Section 1.7 Identification of Issues, and compares the general current conditions to impacts between the Proposed Action and No Action Alternative.

Impacts have been categorized according to the phase of development and duration of activities on the resources. Temporary impacts would be defined in this section as impacts that occur during mining and crushing operations (14 days at a time). Short term impacts would be defined as impacts to the resources that persist after mining and crushing operations have been completed, and remain until stockpiles have been removed and the operating area has been recontoured and seeded. Therefore, short term impacts could last up to 10 years or until all equipment operations have been completed. Long term impacts would be defined as the duration of the gravel pits life and until reclamation has been determined adequate. Therefore, long term impacts could last up to 15 years.

Impacts are also categorized as being direct or indirect, and beneficial and adverse. This analysis identifies these types of impacts and compares the alternatives accordingly. Direct impacts are those that are caused by the action and occur at the same time and place. Indirect impacts are those impacts which are caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable. Sometimes it is difficult to separate these impacts, and so the impacts may be described together.

3.1.4. Cumulative Impacts:

Cumulative impacts refer to impacts on the environment which result from the incremental impacts of the Proposed Action when added to other past, present and reasonably foreseeable future actions. The Cumulative Impacts Analysis Area (CIAA) and Cumulative Impacts Temporal Boundary (CITB) may be different for each resource and will be defined accordingly.

The Madden Deep Unit is the closest nearby oil and gas unit and amounts to approximately 1,980 acres of disturbance. The two gravel pits are within the Madden Deep Unit which also includes the Lost Cabin Gas Plant and an extensive network of roads, pipelines, and power lines. Other leases and units for oil and gas might fall within various CIAA's and CITB's dependent upon resource. The most substantial Reasonably Foreseeable Future Development (RFFD) is the Moneta Divide Natural Gas and Oil project which is currently undergoing environmental review consisting of an EIS. This project would consist of an increase in wells drilled in the Lysite area totalling 4,500 new wells or approximately 22,000 acres of disturbance over approximately 25 years of development. Compared to the Moneta Divide Project this authorization would result in almost negligible amount of short term or long term disturbance to all of the resources analyzed in this EA.

3.2. Climate, Climate Change and Air Quality:

3.2.1. Description of Climate, Climate Change and Air Quality Resources:

Climate: The two gravel pits are located in a semi-arid, high mountain desert , mid-continental climate regime. The area is typically dry, windy, and has very limited rainfall with long, cold winters. The nearest meteorological monitoring station is located in Lost Cabin to the south and in between the two gravel pits. Average annual precipitation is 9.42 inches. Most precipitation occurs in this region in the spring with little in the fall and winter months. Average temperatures range between 4.1oF and 34.6oF in January and between 50.8oF and 86.7oF in July. Prevailing wind in this region is west-southwest.

Climate Change: A growing body of evidence indicates that Earth's atmosphere is warming. Records indicate that temperatures in the Wyoming region have risen approximately 1.5 degrees F since the 1960 to 1979 baseline years (GCRP, 2009b). Concentrations of certain gases in Earth's atmosphere have been identified as being effective at trapping heat reflected off Earth's surface, thereby creating a "greenhouse effect." Climate change is likely to combine with other human-induced stressors to further increase the vulnerability of ecosystems to other pests, invasive species, and loss of native species.

Air Quality: Air quality in the area is impacted by exhaust from drilling rigs, heavy trucks and heavy dirt moving equipment associated with oil and gas operations, as well as production of pollutants associated with production and processing of natural gas (i.e. flaring and gas plant operations). The extent to which these factors may impact air quality on any given day is dependent primarily on production activity, wind conditions, topography, and soil moisture levels. The oil and gas production in this area has also increased the amount of hydrogen sulfide gas (H2S) in the air and has concentrated H2S in several areas.

3.2.2. Impacts to Climate, Climate Change, and Air Quality under Alternative A- No Action:

3.2.2.1. Direct and Indirect Impacts:

The No Action Alternative would result in continuing trends of climate and air quality resource conditions.

3.2.2.2. Cumulative Impacts:

The No Action Alternative would result in continuing trends of climate and air quality resource conditions.

3.2.3. Impacts to Climate, Climate Change, and Air Quality under Alternative B- Proposed Action:

3.2.3.1. Direct and Indirect Impacts:

Climate and Climate Change: Existing impacts and trends on climate and climate change are much greater than anticipated under the proposed action; however, Greenhouse Gas (GHG) emissions associated with equipment used during mining and crushing operations would occur. An attempt to analyze the impacts of GHG emissions and other climate change factors that result from the consumption of fossil fules and other resources produced from the project area would be a highly speculative exercise unnecessary for the land management decisions for which the BLM is responsible. The effects from consumption are not only speculative but beyond the scope of the agency authority or control.

Air Quality: Impacts to air quality in the immediate area being worked would result from dust and fumes from vehicles and excavation equipment employing internal combustion engines. Once on-site, only the dust and exhaust resulting from the individual backhoe excavations and subsequent crushing would contribute to air quality impacts. The duration of these activities indicates that impacts are expected to be temporary but after stockpiling and leaving exposed soils subject to wind erosion, the impacts could continue to be short term as particulate matter is picked up by wind during exposure. However, these impacts would not continue after reclamation or last into the long term. The proposed action is not anticipated to be affected by or affect the existing H2S conditions in the Lysite area.

3.2.3.2. Cumulative Impacts:

Climate and Climate Change: The CIAA for climate and climate change is within 100 km of the project area and would continue for 10 years. Climate change is a global phenomenon impacted by human activities and natural changes around the Earth and the surrounding atmosphere. Analysis of impacts to such a large scale process is beyond the scope of this EA. Because the project area lies within an established oil and gas field in a BLM Wyoming Designated Development Area, other BLM and non-BLM past, present and reasonably foreseeable future actions are expected to increase emissions of Greenhouse Gases in the surrounding area. The Proposed Action would add incrementally to the cumulative impacts to climate change in the

CIAA. Initial impacts during the mining and crushing stages from trucks and equipment would be the most pronounced, but these would decrease rapidly after these activities are completed.

Air Quality: The CIAA for air quality is the area within 100 km of the project area. The CITB for air quality in the area is the permitted time frame (10 years). Because the project area lies within an established oil and gas field in a BLM Wyoming Designated Development Area, other BLM and non-BLM past, present, and reasonably foreseeable future actions are expected to increase emissions of pollutants in the surrounding area. The Proposed Action would add incrementally to the cumulative impacts to air quality in the CIAA. Initial impacts during the mining and crushing stages from trucks and equipment would be the most pronounced, but these would decrease rapidly after these activities are completed.

3.3. Wildlife Including, Migratory Birds, and BLM Special Status Species:

3.3.1. Description of Wildlife Including, Migratory Birds, and BLM Special Status Species:

No Threatened, Endangered, or Proposed wildlife or plant species were identified within the permit areas. The permits are also outside of sage grouse core area or sage grouse winter habitat areas. The Lysite North of Railroad pit is located within 0.75 mile of two raptor nests of undetermined status. The following BLM Special Status sensitive species have potential habitat within the permits, but no individuals have been identified, likely because the pits are already disturbed: Ferruginous hawk, Sage Thrasher, Loggerhead Shrike, Sage Sparrow, Brewer's sparrow, and Migratory Birds in basin-prairie shrub lands.

3.3.2. Impacts to Wildlife Including, Migratory Birds, and BLM Special Status Species under Alternative A- No Action:

3.3.2.1. Direct and Indirect Impacts:

The No Action Alternative would result in the existing impacts to wildlife including, migratory birds, and BLM special status species.

3.3.2.2. Cumulative Impacts:

The No Action Alternative would result in the existing impacts to wildlife including, migratory birds, and BLM special status species.

3.3.4. Impacts to Wildlife Including, Migratory Birds, and BLM Special Status Species under Alternative B- Proposed Action:

3.3.4.1. Direct and Indirect Impacts:

Direct impacts to wildlife would be considered those impacts that result in mortality or lowered breeding success of wildlife. Through implementation of the proposed action these impacts might include: hitting wildlife on roads during travel; harming or killing wildlife that might fall into pits or other hazards opened during operations; or destroying known nests or significant habitat to the point that the individuals are impacted.

Indirect impacts are those that might not be immediately apparent to individual species but might decrease the breeding success or cause a decline in species' range and diversity through time and continued development. Through implementation of the Proposed Action these impacts might include: disturbing valuable wildlife habitat or nests that would result in decreased breeding success by limiting the habitat and range of a species or impacting water resources that wildlife rely on for survival in the relatively arid Lysite area.

Because no new surface disturbance would occur, direct impacts to wildlife would be minimal but could occur through wildlife interacting with the existing open pits or mining equipment during operations. Noise from construction activities and increased vehicular traffic is expected to have a direct temporary effect on wildlife in the form of displacement and stress concentrated within the permit areas and within the 0.75 mile raptor nest buffer at the Lysite North of Railroad pit. Therefore the following mitigation measure will be applied to the Lysite North of Railroad Pit Permit only:

Wildlife Mitigation 1:

Avoid surface disturbance or occupancy within a 0.75 mile buffer of raptor nests between February 1 and July 31, or until young have fledged.

Spills of substances such as antifreeze are known as an attractive nuisance to animals. Hazardous materials such as engine fuels will be present on site, and there is potential for these materials to spill and be ingested by wildlife. These potential short term effects on wildlife will be minimized through design features incorporated by the County at all of their operations. Potential long term impacts to wildlife through surface disturbing activities would likely continue in their current trends until reclamation is determined complete.

3.3.4.2. Cumulative Impacts:

The CIAA for wildlife might vary depending on species, but the general area is the greater Badwater Creek drainages surrounding the Lysite area or approximately a 25 mile radius from the two project areas. The CITB for wildlife is approximately 15 years or for the life of the permits allowing for reclamation.

Most of the cumulative impacts to wildlife within the CITB and CIAA are attributed to oil and gas activities such as drilling, producing wells, roads, pipelines, and production facilities that have not been reclaimed or were reclaimed poorly. This project would cumulatively add to impacts to wildife from past, present, and reasonably foreseeable future actions; however,

because of the scale of the activities considered in cumulative, the project would not significantly add to these impacts.

3.4. Soil Resources:

3.4.1. Description of Soil Resources:

Two ecological sites dominate the two pit locations: loamy and gravelly each having 5-9 inches of precipitation per year. According to the Natural Resources Conservation Service's (NRCS, 2014) Web Soil Survey online database, the soils within the permit areas consist primarily of the Clifsand-Persayo complex, hilly (129) and the Emblem-Clifsand-Rairdent complex, 1 to 25 percent slopes (144) units. These units are primarily nonsaline, well drained, and derived from mixed alluvium typical of alluvial fans and terraces.

3.4.2. Impacts to Soil Resources under Alternative A- No Action:

3.4.2.1. Direct and Indirect Impacts:

The No Action Alternative would result in continuing trends of soil resource conditions.

3.4.2.2. Cumulative Impacts:

The No Action Alternative would result in continuing trends of soil resource conditions.

3.4.3. Impacts to Soil Resources under Alternative B- Proposed Action:

3.4.3.1. Direct and Indirect Impacts:

The most direct impacts to soils occur during construction and site preparation that destroys the soil horizons and mixes the soil layers. This procedure dramatically reduces chemical and biological processes. In addition, stripping and subsequently stockpiling the soils result in mixing of the soil layers which then accelerates loss of important plant sustaining nutrients. The majority of these direct impacts have already occurred at the existing pits, but additional direct impacts could occur during overburden stripping of the proposed mining area. Approximately 14.4 acres of topsoil have already been stripped, and would continue throughout the life of the permit resulting in long term impacts and short term impacts in areas that might be reclaimed prior to reclaiming the entire pit. Other direct but short term if not temporary impacts to soil occur through erosion at these locations and would be minimized during reclamation and managed on a site specific basis, see Section 3.7, Water Resources, for more discussion on erosion.

Other direct long term impacts to soil might occur if contaminants such as fuels and lubricants spill into the soil. These spills inherently occur at a sites such as these, but measures will be taken to eliminate these spills or clean up existing spills making these impacts to soils infrequent and minor.

3.4.3.2. Cumulative Impacts:

The CIAA for soil resources is the project area. The CITB for soil resources is the time period required for successful revegetation of the sites disturbed areas (~15 years). Most of the cumulative impacts to soils within the CITB and CIAA are a result of oil and gas activities such as wells, roads, pipelines, and production facilities that have not been reclaimed or were reclaimed poorly. This project would cumulatively add to impacts to soils from past, present, and reasonably foreseeable future actions.

3.5. Vegetation Resources Including Special Status Species and Noxious/Invasive Plants:

3.5.1. Description of Vegetation Resources Including Special Status Species and Noxious/Invasive Plants:

Vegetation within the two pits is very similar and is mostly composed of shrubs such as sagebrush at the outskirts of the disturbance area. Both pits are within the Inter-Mountain Basins Mixed Salt Desert Scrub (Shrublands) Ecological System which typically contains one or more saltbush and sagebrush with an understory dominated by grasses such as western wheatgrass and indian rice grass. Yarrow is typically found in the Lysite area and has been identified at these two pits somewhat uniquely. Porter's sagebrush is a BLM special status plant species that could have habitat adjacent to the two pits but no individuals were identified.

Approximately 9 acres were reclaimed in the 1990's at the Lysite North of Railroad Pit. This reclamation has re-vegetated well and primarily consists of grasses and low shrubs and some weeds. Weeds, or noxious/invasive plants, have been identified within and near these gravel pits. Russian knapweed, Salt Cedar (Tamarask) and Canada thistle are the most common and worrisome weeds found at these locations. The County sprays and attempts to manage weeds along the County roads, but they inevitably occur and are often transported to these pits through equipment travel.

3.5.2. Impacts to Vegetation Resources Including Special Status Species and Noxious/Invasive Plants under Alternative A- No Action:

3.5.2.1. Direct and Indirect Impacts:

The No Action Alternative would result in continuing trends of vegetation resources conditions.

3.5.2.2. Cumulative Impacts:

The No Action Alternative would result in continuing trends of vegetation resources conditions.

3.5.3. Impacts to Vegetation Resources Including Special Status Species and Noxious/Invasive Plants under Alternative B- Proposed Action:

3.5.3.1. Direct and Indirect Impacts:

Direct short term impacts to vegetation as a result of topsoil stripping would continue until reclamation occurs on the total approximately 14.4 acres of disturbance associated with both pits. Once reclamation occurs, vegetation recovery will likely be slow especially for shrubs like sagebrush; however, the County will be required to submit a detailed reclamation plan in accordance with the BLM Wyoming Reclamation Policy prior to beginning relcamation. Therefore, reclamation techniques will utilize the best means practicable and reclamation success standards will be strictly followed. Noxious/invasive plants will likely continue to be a problem in the Lysite area and additional weeds could appear at these two pits as a result of the proposed action resulting in direct impacts that would only occur in the short term until reclamation. Because these are County pits, the County will manage weeds appropriately either through spraying or physical removal even until reclamation is determined complete. However, to ensure that the weeds at these pits are identified and managed the following mitigation measure will be implemented:

INNS Mitigation 1:

The operator/holder will be responsible for managing all noxious and undesirable invading plant species in the reclaimed areas, including cheat grass until the vegetation activities have been determined to be successful. If noxious or invasive weeds are encountered, the BLM and/or the County Weed and Pest Department would be consulted by the operator/holder for suppression and control methods. If chemical herbicide control methods are used on public land, only BLM approved chemicals and application methods will be permitted. A Pesticide Use Proposal (PUP) and written approval from the Authorized Officer for the use of herbicides must be obtained prior to usage of herbicides.

If transport of weeds is identified, mobile equipment being transported from an offsite location to the BLM project area should be cleaned prior to arrival using water, steam, or air pressurized cleaning methods to remove any invasive or noxious weed seed and plant parts or materials that could contain seeds or plant parts. When appropriate, identify sites generally off public lands where equipment can be cleaned. Seeds and plant parts need to be collected and disposed of appropriately.

All mulch, seed and other vegetative reclamation materials must be certified weed free. If available all sand, gravel, and fill materials shall be certified weed free.

The following weeds have been identified at these two pits and need to be managed appropriately: Russian knapweed and Tamarask (Salt cedar).

In addition, the following weeds need to be controlled should they begin to grow in the project areas: http://www.wyoweed.org/weeds/state-designated-weeds

3.5.3.2. Cumulative Impacts:

The CIAA for vegetation is the greater Lysite area including both pits and particularly along county roads that might use material produced from these two pits. The CITB for vegetative resources is the time period required for successful reclamation to occur (~15 years). Cumulative impacts to vegetation occur from vegetation removal and traffic primarily related to oil and gas operations in the area. With an increase in disturbance and traffic associated with activities in the CIAA, comes an increased potential for weeds to establish in this area. However, oil and gas operators and the County will continue to spray and manage weeds within the CIAA, and better weed management solutions in the future might decrease these impacts.

3.6. Water Resources:

3.6.1. Description of Water Resources:

Surface Water: Both pits are located within the Upper Badwater Creek drainage but are greater than 500 feet from the riparian area associated with the creek. Badwater Creek is a perennial stream that flows into Boysen Reservoir near Shoshoni, WY approximately 25 miles to the west of Lysite and is considered a Class 2AB Creek by the Wyoming Department of Environmental Quality, which means it is possible to sustain fish and provide drinking water quality.

The Lysite North of Railroad pit has one internally drained/evaporated pit and one strip mined area. Erosion issues have been identified within the strip mined area and off of the gravel stockpile to some degree. The Lost Cabin pit is mostly internally drained/evaporated, but the overburden pile and above-pit stockpile area drain into adjacent ephemeral streams and some minor erosion in the form of rilling has occurred here. Attempts to manage these erosion issues have previously been completed by the County, and impacts to adjacent ephemeral drainages have been minimal.

Groundwater: The primary groundwater aquifer in the Lysite area is the Wind River Aquifer which is within the Wind River Formation. The Wind River Aquifer has varied water quality, but usually meets drinking water standards and is the most often exploited water source in the Wind River Basin. Both gravel pits are composed of alluvial terrace material overlying a thick clayey/shale layer of the upper Wind River formation. The Lysite North of Railroad pit area has an estimated depth to groundwater of around 200 feet. Groundwater at the Lost Cabin pit could be found at approximately 80 feet. Shallower, unconfined, alluvial aquifers occur along the drainages of Badwater Creek and infiltration of these aquifers through the alluvial terrace material at the gravel pits is possible.

3.6.2. Impacts to Water Resources under Alternative A- No Action:

3.6.2.1. Direct and Indirect Impacts:

The No Action Alternative would result in continuing trends of water resource conditions.

3.6.2.2. Cumulative Impacts:

The No Action Alternative would result in continuing trends of water resource conditions.

3.6.3. Impacts to Water Resources under Alternative B- Proposed Action:

3.6.3.1. Direct and Indirect Impacts:

Surface Water: Direct impacts to surface water quality and geomorphic characteristics could occur to ephemeral drainages through sedimentation as a result of erosion from both gravel pits. These impacts would be temporary if noticed during annual inspections and mitigated to the extent possible through design features that the County would employ such as sediment fencing or reconstruction. Upon reclamation, erosion would be minimized to the extent possible through adequate reclamation design in accordance with the BLM Wyoming Reclamation Policy. The internally drained pits within the permit areas would not allow for off-site runoff thereby not creating runoff into adjacent drainages.

Groundwater: A hydraulic connection with the the two gravel pits to the shallow, alluvial aquifers is possible considering the two pits are internally drained through quaternary gravels. This could result in temporary indirect impacts to groundwater quantity within these shallow aquifers; however, these impacts would not necessarily be negative or severe considering this process occurs naturally regardless and the waters would likely not have any contaminants or quality issues. The only negative impacts that could occur through this process would be to groundwater quality if there were existing oil or hydraulic fluid spills within these areas that could infiltrate to these aquifers, but this is a speculative impact. No impacts to the Wind River formation aquifer would be anticipated because infiltration into this aquifer would be impeded by the clay/shale layer underlying each pit.

3.6.3.2. Cumulative Impacts:

Surface water: The CIAA for both groundwater and surface water resources is the local drainage basin area of Badwater Creek to the Boysen Reservoir. The CITB for surface and groundwater resources is 15 years or approximately the life of these pits through reclamation. Due to oil and gas operations that discharge produced water into the Badwater Creek drainage, this drainage is typically high in salts and is routinely exceeded in capacity causing erosion and sedimentation issues particularly during major storm events. The impacts that could occur as a result of the proposed action would be very minor in comparison to existing and reasonably foreseeable future impacts such as the Moneta Divide project.

Groundwater: Groundwater impacts would likely be even more locally confined where there are no cumulative developments identified; thus resulting in a low likelihood for cumulative impacts to groundwater. There are no nearby water uses that would be considered in cumulative impacts.

3.7. Unavoidable Adverse Impacts (All Resources):

NEPA section 102(c) mandates disclosure of “any adverse environmental effects which cannot be avoided should the proposal be implemented” These are impacts for which there are no

mitigation measures or impacts that remain even after the implementation of mitigation measures. Implementation of the Proposed Action would result in unavoidable adverse impacts to some resources.

The CEQ 40 CFR 1500.2(e) regulations define unavoidable adverse impacts as those that cannot be avoided due to constraints in alternatives. These impacts do not have to be avoided by the planning agency, but they must be disclosed, discussed, and mitigated, if possible.

3.7.1. Unavoidable Adverse Impacts Under Alternative A- No Action:

Unavoidable adverse impacts to soils, vegetation, and surface waters would continue through the exposure of the unreclaimed pits through a total of around 14 acres of disturbance under the No Action alternative.

3.7.2. Unavoidable Adverse Impacts Under Alternative B- Proposed Action:

There would be some unavoidable adverse impacts to soils, vegetation, and wildlife through surface disturbance and loss of vegetation associated with the Proposed Action. These impacts currently exist, and the proposed action is a continued use of the same lands and would likely not exacerbate these impacts. Therefore, these impacts are not considered substantial and an Environmental Impact Statement is not required.

Continued unavoidable adverse impacts to soils, vegetation, and surface waters through the exposure of the unreclaimed pits through a total of around 14 acres of disturbance would occur under the Proposed Action. Temporary impacts to wildlife during mining and crushing activities and short term impacts through continued unreclaimed surface disturbance are likely unavoidable under the Proposed Action. Soil mixing and compaction through additional mining would likely occur unavoidably under the Proposed Action.

3.8. Relationship of Short-Term Uses and Long-Term Productivity (All Resources):

The CEQ establishes (40 CFR 1502.16) that the balance or trade-off between short-term uses and long-term productivity needs to be defined in relation to the activity in question. The deicion maker and members of the public need a clear sense of what they are gaining or losing in both the short and long-term. For the purpose of this analysis, the short-term is considered three to five years, whereas the long-term is 20+ years.

3.8.1. Relationship of Short-Term Uses and Long-Term Productivity Under Alternative A- No Action:

The short-term benefit of avoiding more than the existing impacts to soils, vegetation, surface waters and wildlife would be offset by potential degradation of County roads and these gravel pits which could lead to additional impacts to soils, vegetation, surface water and wildlife.

3.8.2. Relationship of Short-Term Uses and Long-Term Productivity Under Alternative B- Proposed Action:

The short-term impacts of soil compaction/mixing, vegetation removal, surface waters and temporary wildlife impacts would be offset by the benefit of having well maintained and constructed county roads which minimizes impacts to surface waters, soils and vegetation along these roadways.

3.9. Irreversible and Irretrievable Commitments of Resources (All):

Irreversible commitments are those that cannot be reversed, except perhaps in the extreme long term. Examples of irreversible impacts would be species extinction, ore extraction, and logging of an old growth forest.

Irretrievable commitments are those that are lost for a long period of time. Extraction of sand, clay, and gravel would constitute irretrievable impacts because these minerals cannot be renewed in their current location within a reasonable time frame.

Impacts from some actions can be both irreversible and irretrievable for some resources. Management actions most likely to result in irreversible and/or irretrievable impacts include those related to development and surface disturbance such as mineral extraction and energy development.

3.9.1. Irreversible and Irretrievable Commitments of Resources Under Alternative A- No Action:

Table 3.1. Irreversible and Irretrievable Commitments of Resources Under Alternative A- No Action

Affected Resource	Irreversible Commitment	Irretrievable Commitment
Climate, Climate Change and Air Quality	No	No
Wildlife Resources	No	No
Soil Resources	No	No
Vegetation Resources	No	No
Water Resources	No	No

3.9.2. Irreversible and Irretrievable Commitments of Resources Under Alternative B- Proposed Action:

Table 3.2. Irreversible and Irretrievable Commitments of Resources Under Alternative B- Proposed Action

Affected Resource	Irreversible Commitment	Irretrievable Commitment
Climate, Climate Change and Air Quality	No	No
Wildlife Resources	No	No

Soil Resources	No	No
Vegetation Resources	No	No
Water Resources	No	No

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Chapter 4. Consultation and Coordination:

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4.1. Persons, Groups, and Agencies Consulted:

Table 4.1. List of Preparers

Name	Title	Responsible for the Following Section(s) of this Document
Tom Sunderland	Geologist	Author
Tim Vosburgh	Wildlife Biologist	Consultation on Wildlife
Craig Bromley	Archaeologist	Consultation on Archaeology
Jeremie Artery	Weed Management Specialist	Consultation on Noxious/Invasive species

4.2. Summary of Public Participation:

There was no public scoping or involvement process applied to this document apart from posting the Environmental Assessment on the BLM NEPA Register.

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